REMARKS

In response to the Office Action of September 30, 2003, applicant has again amended claim 1 to address the issues raised by the §112 rejection. Reconsideration of all grounds of rejection is respectfully requested.

In paragraph 4 of the Office Action of September 30, 2003, the Examiner rejected all claims under 35 USC §112 based on the Examiner's observation that claim 1 recites the percentages of binder materials, but does not recite the percentages of the materials other than the binders. Applicant has amended claim 1 to insert percentages for the other materials as shown in Table 1 on page 7 of the specification. It is submitted that the amendment overcomes the §112 rejection.

Applicant claims a composition suitable for making acoustical tiles in a water-felting process. As is explained in the specification (Page 1, line 21 et seq), in the conventional water-felting process,

> "an aqueous slurry of mineral wool, lightweight aggregate, cellulosic fiber, starch binder and other ingredients, as desired or necessary, is flowed onto a moving foraminous support wire, such as that of a Fourdrinier or Oliver mat forming machine, for dewatering. The slurry may be first dewatered by gravity and then dewatered by vacuum suction means to form a basemat. The wet basemat is then pressed (with or without the application of additional vacuum) to the desired thickness between rolls and the support wire to remove additional water. The pressed basemat is then dried in heated drying ovens, and the dried material is cut to the desired dimensions and optionally sanded and/or top coated, such as with paint, to produce acoustical ceiling tiles and panels."

The acoustical tile compositions of the present invention can be fabricated into tiles and panels using conventional water felting processes and equipment with improved efficiency. Applicant's claims specifically define an acoustical tile composition wherein the conventional starch binder is replaced, in whole or in part, by a polyamine epichlorohydrin resin wet strength resin. (See Specification page 5). Applicant has discovered that replacing a conventional starch binder with a polyamine epichlorohydrin resin binder provides an acoustical tile composition that can be dried faster than conventional compositions using starch binders. This, of course, is a major advantage because the acoustical tile made with the polyamine epichlorohydrin resin binder consumes less energy and thus can be can produced more economically than conventional acoustical tile. (See specification page 7). Further, the substitution of a polyamine epichlorohydrin resin in the acoustical tile composition (for all or part of) the conventional starch binder produces ceiling tile having improved properties, such as improved high humidity sag-resistance.

In paragraph 7 of the Office Action the Examiner has rejected claims 1-7 as being obvious under 35 USC §103 based on newly cited US Patent 5,928,588 to Chen et al, in view of newly cited US Patent 6,586,620 to Canorro et al and previously cited US Patent 5,911,818 to Baig.

The Chen et al patent, which is the main reference for the §103 rejection, relates to the manufacture of filters using a "dry laying" process (see Col 7 line 29 et seq.). The Chen et al patent pointedly declares that the process "does not involve

the formation of a wet slurry," and "vacuuming or other steps to remove liquid are not necessary." (Col. 7, lines 50-53) Chen et al discloses porous filter structures, which comprise three components. The first component is a "primary media" that may include perlite. The second component is the "green strength agent" that is generally a polyolefin fiber. The third component is the binder, which is generally a polymeric powder, although, as the Examiner admits, neither starch nor epichlorohydrin resins are suggested as the binder. Cationic charged resins, cellulose and metallic fiber, as noted by the Examiner, are disclosed by Chen et al as optional materials that may be used in the filters, although no functional purpose is ascribed to any of these optional materials.

Chen et al does not suggest the manufacture of an acoustical tile nor does it suggest that any product should be produced using a water felting process, as required by applicant's claims. Chen et al teaches away from the water-felting process used by applicant because Chen et al uses a "dry laying" process. Indeed, Chen et al specifically declares that the formation of a slurry is not involved and steps to remove water are not necessary. (See Col. 7, line 50). Accordingly Chen et al fails to make obvious the manufacture of acoustical tile compositions using conventional water felting processes and equipment with improved efficiency. Specifically, Chen et al fails to suggest acoustical tile compositions that can be dried significantly faster than comparable compositions containing conventional starch binders.

Most importantly, Chen et al fails to suggest the substitution of a polyamine epichlorohydrin resin for a conventional starch binder in an acoustical tile composition produces ceiling tile having improved properties, such as improved drying properties and improved high humidity sag-resistance. Chen et al does not disclose the specific "reactive water-soluble epichlorohydrin polymer binder" required by all of applicant's claims. Finally, Chen et al fails to disclose any composition suitable for use in a water-felting process. It follows that Chen et al fails to make obvious any of applicant's claims.

Conorro et al is cited because it discloses epichlorohydrin resins in aqueous coating compositions. The Conorro et al coating compositions comprise a water-soluble thermosetting material, such as an epichlorohydrin resin (Component A) and a water-insoluble film-forming polymer (Component B). The coatings may be applied to a wide variety of substrates, including ceiling tiles (See Abstract), Conorro et al teaches nothing about acoustical tile compositions or any other product produced through a water-felting process.

Baig is cited to show a starch binder. Starch is a conventional acoustical tile binder that applicant has replaced with a water-soluble epichlorohydrin resin. Baig is the only reference that relates to an acoustical tile or to any product produced in a water-felting process.

It is submitted that the rejection is improper because adding an epichlorohydrin resin of Conorro et al to the Chen et al structure, as suggested by the Examiner, would not produce an acoustical tile or a any product that could

be made in a water-felting process, as claimed by applicant. Neither reference gives any suggestion to one skilled in the art as to why one should replace the Chen et al polymeric powder binders with the water-soluble epichlorohydrin resin of Conorro et al to be used in the Chen et al "dry laying" process. Moreover, the combination of references fails to suggest an acoustical tile composition that uses a water-soluble epichlorohydrin resin as the principal binder. The advantages achieved by applicant's invention are not made obvious by the cited art. The cited clearly fails to make obvious any of applicant's claims.

In paragraph 8 of the Office Action Claims 8-10 are rejected over newly cited US Patent 5,928,588 to Chen et al, in view of newly cited US Patent 6,586,620 to Canorro et al in further view of previously cited US Patent 5,395,571 to Symons.

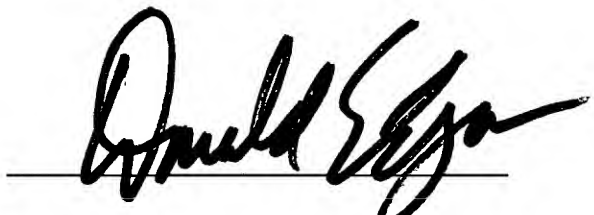
Claims 8-10 require the use of a retention aid that promotes the aggregation of the binder. Although Symons does disclose the use of sodium carboxymethyl cellulose as a thickening agent, Symons does not cite the use of the sodium carboxymethyl cellulose as a retention aid for the epichlorohydrin resin. Moreover, those skilled in the art would not use any thickening agent in a composition to be used in a water-felting process because a thickening agent would clearly interfere with dewatering process. Moreover, the combination of references fails to suggest the addition of a retention aid to an acoustical tile composition based on an epichlorohydrin binder. Accordingly, it is submitted that

the combination of Chen et al, in view of Canorro et al in further view of Symons does not make obvious claims 8 to 10..

In the Office Action of September 30, 2003, the Examiner has rejected all claims under 35 USC 112 and 35 USC §103 based on two newly cited references. The Action has been made final. The rejected claims were first presented in Amendment D filed November 19, 2002. In the Office Action of March 18, 2003, the Examiner made no §112 rejection and no art rejection based on either of the two newly cited references. Accordingly, the finality of the rejection of September 30, 2003 is premature and applicant should be allowed to amend the claims, even after the final rejection.

It is submitted that all of the claims in issue are patentable over the prior art. Reconsideration of all grounds of rejection is respectfully requested in the light of the foregoing amendment and remarks and an early Notice of Allowance is solicited.

Respectfully submitted,



Donald E. Egan
Registration No. 19,691
273 Stonegate Road
Clarendon Hills, Illinois 60514
(630) 920-8440

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